Louisiana Department of Environmental Quality

Quality Management Plan

REVISION 6

August 17, 2007

APPROVAL PAGE

Louisiana Department of Environmental Quality
Quality Management Plan
Revision 6

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DOCUMENT REVIEW AND REVISION RECORD

Note: Actions older than 5 years may be removed from this record

Date	Revision No.	Record of Activity
08/06/1998	0	Initial document approved.
09/20/1999	0	Broad revisions throughout document. *Note: Document revision numbered 0 in error, rather than 1, but document date is correct.*
01/25/2002	2	Recertified without changes.
12/17/2002	3	Broad revision throughout document to incorporate ISO 9001:2000 requirements and update organizational information.
02/11/2004	4	Broad revision throughout document to update program information.
1/25/2005	5	Address EPA comments by changes to Section 7.4, 8.0, 9.0 and Appendix A. Project planning checklists were added to Appendix E. Also, the approval page and Appendix B were updated for the organizational changes.
09/06/2006	6	Update and revision to address elimination of QA Officer positions and distributing their functions into all agency positions. Revised document outlines how all staff are involved in the quality management system and how it will be implemented.
11/3/2006	6	Updated sentence in section 8.2, bullet #8 to allow review of SOPs every 2 years as a minimum instead of every 1 year. This is how it previously was stated in earlier versions
08/17/2007	6	Reviewed by Quality Steering Team / Executive Staff and accepted with no significant changes for 2007-2008 – (Simple changes to the Required and Suggested Training "Table 1" in Section 3; Updated about the formation of the Quality Steering Team in Section 1; a couple of one or two word corrections/edits) – Also updated names on approval page
11/28/2007	6	Adjusted name of Steering Team from QIST to QST (Quality Steering Team)

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INTRODUCTION

This Quality Management Plan (QMP) describes a management system established by the department to ensure that the collection, analysis and quality of its environmental data is sufficient for its intended uses. The plan outlines the procedures to be used to generate quality data, the means to verify accuracy and completeness, and corrective action procedures to promote continual improvement. The plan conforms to EPA QA/R-2 – *EPA Requirements for Quality Management Plans* and is in support of the Quality Management Statement of Policy. The quality system is implemented in accordance with applicable federal and state laws and rules, standards, requirements documents, guidance documents, contractual requirements, and sound management practices.

STATEMENT OF POLICY

It is LDEQ's policy that data of the appropriate type and quality be used by the department in all of its environmental programs and decision making processes. All employees are responsible for adhering to this statement of policy and other policies and procedures stated in this document.

QUALITY MANAGEMENT PLAN STRUCTURE

The QMP contains 10 main sections organized to meet the provisions of the EPA QA/R-2 requirements document:

1. Management and Organization
2. Quality System Components
3. Personnel Qualifications and Training
4. Procurement of Items and Services
5. Documents and Records
6. Computer Hardware and Software
7. Planning
8. Implementation of Work Processes
9. Assessment and Response
10. Quality Improvement

1.0 MANAGEMENT AND ORGANIZATION

Quality in environmental programs contributes to protection, preservation and enhancement of the environment, public health and safety, economic development, efficient use of public funds and resources, technical credibility, and recognition of excellence. The QMP outlines the structure, hereafter referred to as the "quality system", which employees will use to produce quality work products and services.

1.1 Applicability

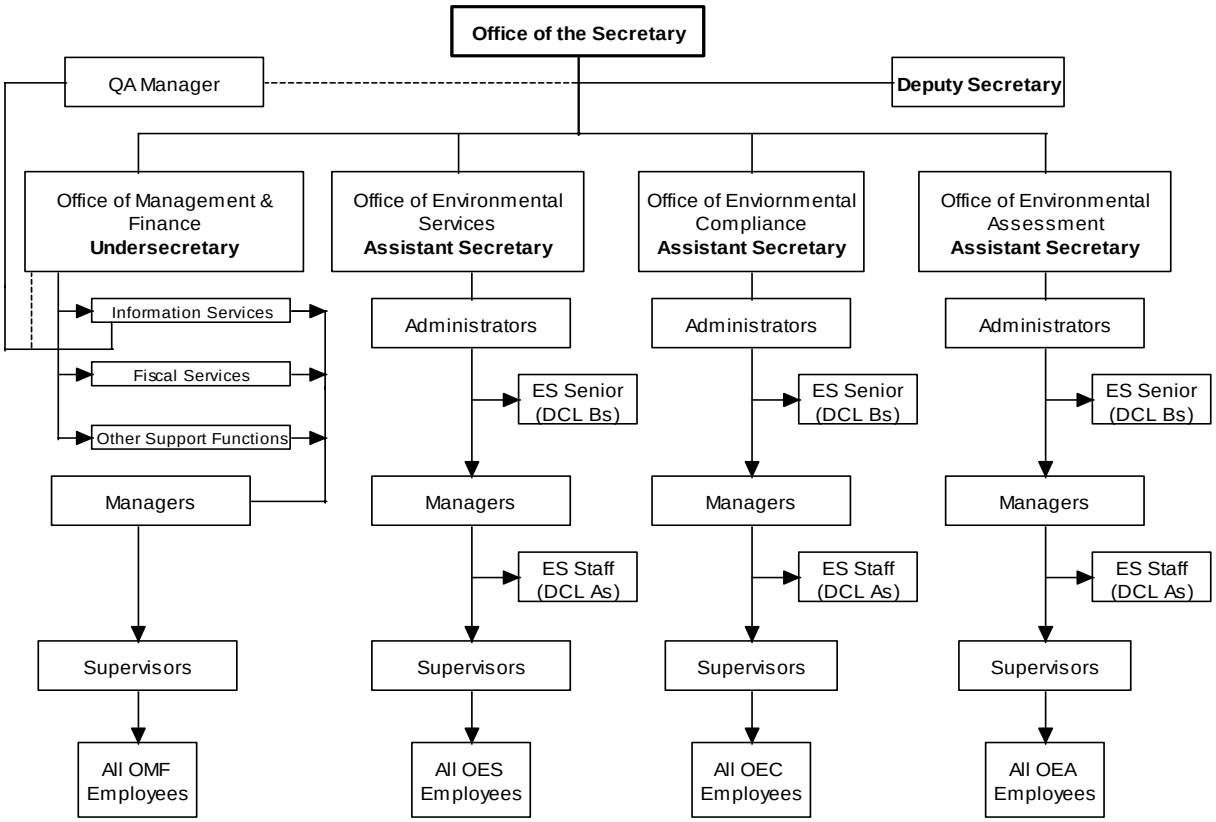
Activities governed by this QMP include permits and enforcement, remediation, geology, engineering, technical and analytical support, inspections, and environmental assessments. Agency staff and external contractors are bound by the requirements in this QMP. The Laboratory Services Division will comply with guidance and procedures contained in this QMP to the maximum extent possible, however, the Lab must be in strict compliance with applicable National Environmental Laboratory Accreditation Program's (NELAP) Quality System regulations to retain accreditation and therefore must maintain a separate and distinct Quality Assurance Manual (QAM).

1.2 LDEQ Organization

The LDEQ is the primary state environmental regulatory agency. LDEQ operations are under the management of the Secretary, who is appointed by the Governor. The LDEQ consists of five offices: Office of the Secretary (OSEC) headed by the Secretary; Office of Management and Finance (OMF) headed by the Undersecretary; and the Office of Environmental Compliance (OEC), Office of Environmental Services (OES), and Office of Environmental Assessment (OEA), each headed by an Assistant Secretary. The leadership of these offices along with the Secretary forms the Executive Staff.

The Executive Staff assigns responsibility for environmental programs, projects and grants to the administrators who oversee agency operations within each office at the division level. Administrators ensure that the Managers, Supervisors, Project Managers, Staff Scientists and Senior Scientists ("Dual Career Ladder" technical personnel known as DCLs) are aware of and performing their roles within the quality system. A complete description of roles and responsibilities is found in Section 1.3. The LDEQ quality system structure follows.

LDEQ Quality System Structure



Note: Some DCL-As report to Administrators or Supervisors

A more complete LDEQ Organization Chart with current names of the management positions can be found on the LDEQ Web Site at http://www.deq.louisiana.gov/portal/tabid/2227/Default.aspx .

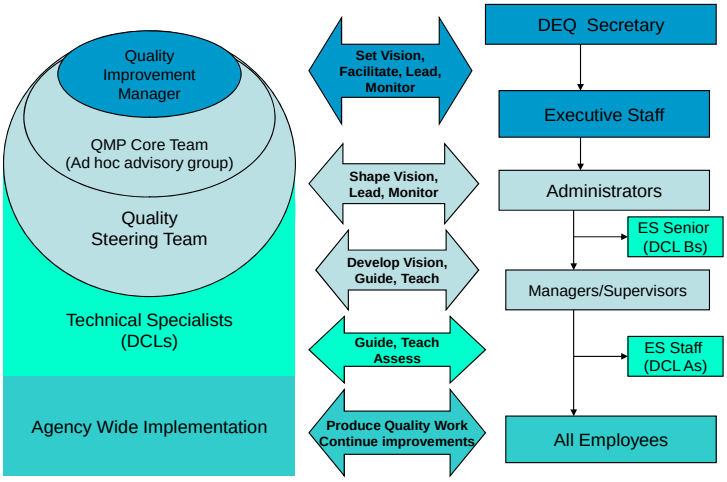
1.3 LDEQ Quality Responsibilities and Authorities

All agency personnel are responsible for ensuring that work products and services within their areas of responsibility meet the needs and expectations of the customer by performing their duties in accordance with applicable plans and procedures and by implementing applicable elements of the quality system described in this plan.

Administrators, Managers, Supervisors, and other personnel shall, as appropriate, review and respond to deficiencies, findings, or significant conditions related to their areas of responsibility. Individuals responsible for establishing or executing elements of the quality system may delegate portions of the work but will retain responsibility for the accomplishment of such work.

An overview summary of the general LDEQ Quality System responsibilities is depicted in the following diagram, with further details following:

Summary of LDEQ Quality System Responsibilities



The following positions have been assigned specific quality-related roles and responsibilities:

1.3.1 LDEQ Secretary

The Secretary is responsible for directing LDEQ programs and operations, including the quality system. The Secretary directs the Executive Management staff and reports to the Governor.

1.3.2 Executive Staff

Executive Staff is responsible for ensuring that environmental programs produce the type and quality of results expected. Their role is to:

- Set vision for data quality in environmental programs
- Define authorities and responsibilities of Administrators and Managers
- Communicate to the organization the importance of meeting customer (internal and external), statutory, and regulatory requirements
- Ensure adequate resources (staff, equipment, and facilities) are available to accomplish quality goals and objectives

- Facilitate and direct the quality improvement process

1.3.3 Quality Assurance (QA) Manager

The QA Manager reports to the Undersecretary for QA Functions and is independent of the LDEQ offices that generate, compile, and evaluate environmental data. The QA Manager oversees the development and implementation of the quality system by:

- Coordinating with the Executive Staff and Administrators to set program Quality Goals, Visions, and Strategies
- Leading the Quality Steering Team (See Section 1.3.11)
- Assuring the maintenance of quality plans and procedures on the intranet
- Coordinating independent assessments across offices

1.3.4 Administrators

Administrators report to Assistant Secretaries or the Undersecretary and are responsible for:

- Oversight of planning, implementation, assessment, and improvement of environmental programs in their respective divisions
- Ensuring that environmental programs and associated work activities performed within their divisions produce the type and quality of results expected
- Ensuring that quality policies and procedures are maintained
- Oversight of the development and/or implementation of training and certification programs within their divisions
- Assigning sufficient authority and independence to staff to allow them to plan, implement, assess and improve the environmental programs
- Notifying the QA Manager if requirements are developed for a program that are different than stated in the QMP

1.3.5 Managers and Supervisors

Managers report to Administrators and Supervisors report to Managers; they are responsible for:

- Planning, implementation, assessment, and improvement of environmental programs in their respective sections/units
- Ensuring that permits and enforcement actions are produced and remediation activities, geological activities, engineering activities, technical and analytical support activities, inspections, and environmental assessments are conducted in accordance with applicable plans, procedures, and with state and federal requirements

- Ensuring that employee performance is measured against specifications and documented in employee performance planning and review (PPR) documents
- Maintaining a thorough knowledge of work activities, commitments, deliverables, and time lines in their sections/units
- Reviewing and approving or concurring with Standard Operating Procedures (SOPs) and work processes within the section/unit
- Assisting with environmental program assessment activities
- In the event deficiencies are found during assessments, recommending to their Administrator that work be stopped or redirected in order to safeguard program objectives, worker safety, public health, or environmental protection
- Developing and approving proposed corrective actions
- Monitoring the implementation of corrective actions
- Reporting on the status of corrective actions to Administrators and Environmental Scientist Seniors
- Ensuring corrective actions are carried out in a timely manner
- Ensuring staff is properly trained

1.3.6 Environmental Scientists Staff (DCL A) and Senior (DCL B) (“DCLs”)

The DCLs are the experts in their fields and report to Supervisors, Managers or Administrators and are responsible for:

- Assisting and providing support to the Administrators, Managers and Supervisors in the development and implementation of plans to ensure quality in environmental programs
- Assisting with the development and documentation of SOPs and work instructions
- Performing routine independent reviews of data, documents and processes
- Participating in assessments and/or corrective action activities by providing technical input
- Providing information to the QA Manager for the preparation of the Annual Quality System Work Plan and Report

1.3.7 Project Managers

Project Managers (also known as team leaders in some programs) are assigned to this functional role by Administrators and Managers to manage environmental projects, including work performed by contractors, and are accountable for the successful completion of project-related tasks and objectives. Project Managers could be any technical employee in the Civil Service professional series. Project Managers are responsible for:

- Maintaining a thorough knowledge of work activities, commitments, deliverables, and time lines associated with projects

- Developing necessary lines of communication and good working relationships between division staff and personnel of other divisions and organizations participating in a project
- Ensuring that management and the LDEQ/OMF Contract Managers are informed of changes, revisions, or additions to the project
- Monitoring the effectiveness of the project
- Elevating quality issues requiring resolution to the Manager or Supervisor
- Assisting in preparing contracts and intergovernmental agreements
- Ensuring contractors understand their commitment to meet deadlines and scheduled commitments
- Enforcing corrective action measures when contractors do not meet deadlines and scheduled commitments

1.3.8 Contract Managers

Contract Managers in OMF provide fiscal and administrative oversight for all agency-generated contracts. Contract Managers are responsible for:

- Assisting in preparing contracts and intergovernmental agreements
- Maintaining a through knowledge of commitments, deliverables, regulations, policies and time frames associated with contracts
- Developing necessary lines of communication and good working relationships between the agency staff and outside entities participating in a contract
- Reviewing and requiring revisions, as necessary, to administrative submittals
- Responding to contractor non-technical administrative needs and concerns on a timely basis
- Processing all invoices for review by the assigned Project Manager
- Ensuring Financial Services Division is informed of changes, revisions or additions to the contract
- Advising supervisory personnel when contract timetables, tasks and coordination procedures are not being met, as communicated by EPA or LDEQ contact persons

1.3.9 All Employees

Employees who generate permits and enforcement actions and/or participate/conduct remediation activities, geological activities, engineering activities, technical and analytical support, inspections, and environmental assessments are responsible for following applicable policies, plans and procedures, producing quality information and products, and recommending improvements to processes.

1.3.10 Quality Management Plan Core Team

The QMP Core Team currently exists to assist with review and updates to the QMP.

The Core Team will be discontinued once the Quality Steering Team is created.

1.3.11 Quality Steering Team

The Quality Steering Team, established in 2007, consists of representatives from each of the offices (at least 5 people) as selected by the Executive Staff with input from the QA Manager. The team is facilitated by the QA Manager and members will be at the Administrator / Manager level. Members will serve for a period of at least one to two years with individual rotations occurring periodically (not all at the same time) to assure continuity. The team may decide on an annual chairperson to work with the QA Manager to lead the team.

The Quality Steering Team will be responsible for:

- Developing the Annual Quality System Work Plan and Report (See also Section 10.1)
- Coordinating the review of the quality system and updating the QMP as needed (See also Section 7.3)
- Developing and planning the implementation of program quality goals
- Provide the needed training and tools to implement quality assurance and quality improvement in all areas and work processes within LDEQ

This team will meet routinely (as called by the QA Manager) to discuss Quality Issues and plan future Quality System Improvements, Strategies and Directions.

2.0 QUALITY SYSTEM COMPONENTS

LDEQ generates environmental data from compliance monitoring, ambient monitoring and assessment programs every year that is used to make decisions that affect human health and the environment. LDEQ receives information from regulated facilities that is also used in business processes (for example, permitting) and decision making.

Successful implementation of the quality system requires a consistent and graded approach to QA practices. The QA approach will be commensurate with the intended uses of the data and degree of confidence needed in the results. A variety of tools and practices and procedures are employed for planning, implementing, and evaluating the quality system.

2.1 Planning

This section describes the plans required to ensure environmental programs produce and use quality data.

2.1.1 Quality Management Plan (QMP)

This document describes the system, organization, policies, processes, documentation, communication and tools used to ensure the quality of data created or received by LDEQ complies with its data policy. The QMP describes a dynamic system of processes that will be continuously improved and updated as programmatic practices and procedures change and evolve. It serves as the "umbrella" document for all QA operations. Revisions and updates to the QMP will be facilitated by the QA Manager working with the Quality Steering Team for submission to EPA by Mid-August of each year.

2.1.2 Quality Assurance Project Plans (QAPPs)

QAPPs integrate all technical and quality aspects of a project, including planning, implementation, and assessment. The purpose of the QAPP is to document planning results for environmental data operations and to provide a project-specific "blueprint" for obtaining the type and quality of environmental data needed for a specific decision or use.

2.1.3 Sampling and Analysis Plans (SAPs)

SAPs document sampling and analytical procedures to be performed. SAPs are not necessary if these details are included in a QAPP. SAPs will describe all sampling activities by media and include information on number of samples, type of samples (environmental, duplicate, etc.), sampling locations, methodologies, and equipment, and sample preservation techniques, if applicable. They will describe what analyses are to be performed on each sample, including information such as EPA or other method reference number, detection limits, sample holding times, and any special analytical considerations.

2.2 Implementation Tools and Practices

The use of SOPs serves as the primary implementation tool to ensure comparability across programs and within individual environmental data collection projects. SOPs detail the work processes that are conducted or followed within the agency. SOPs also provide objective tools to evaluate the process and an individual's performance.

2.3 Evaluation and Assessment Tools

Primary evaluation and assessment tools include: Technical Systems Audits (TSAs), Quality System Assessments (QSAs), Data Quality Assessments (DQAs) and Planning and Performance Reviews (PPRs) (See Section 9). TSAs and QSAs are coordinated by the QA Manager and the Quality Steering Team. The QA Manager will also

participate in or facilitate the review processes as needed.

3.0 PERSONNEL QUALIFICATIONS AND TRAINING

LDEQ personnel performing work in environmental programs must be qualified to perform assigned work.

3.1 Personnel Qualifications

Qualifications are described in Civil Service job specifications that include specific education and experience requirements for each position title, for example, Environmental Scientist. The Human Resources Section evaluates existing individual employee education and experience and notifies the division when the employee meets the qualifying requirements to advance to the next level in the career ladder.

Management prepares job descriptions for each LDEQ position. LDEQ position descriptions specify technical expertise requirements. The job descriptions specify essential job functions, physical and environmental demands and hazards, and job-related knowledge, skills and experience.

3.2 Training Program

3.2.1 Agency Level Training

The OMF designs training programs based on formal assessments of agency, office, division, program, and job requirements (*Policy 4008-01 Training and Policy 4010-02 LDEQ Leadership Development Program*). Qualified instructors are identified on a course-by-course basis through resumes, interviews, proposals, and demonstrated competence. The Deputy Undersecretary uses written evaluations to assess course content and instructor effectiveness.

Training needs are determined annually on an individual basis by supervisors in consultation with employees. Supervisors develop Individual Development Plans (IDPs) that outline training requirements for each employee. The IDP is used in the annual Performance Planning and Review (PPR) process to assess training status. Training needs are based on statutory requirements, management directives, policies and procedures and outlined in the employee's annual PPR plan.

PPR plans may address remedial training needed to correct deficiencies in performance, educational preparation, or professional experience and to address prerequisites for advancement and new or unique job requirements. Training topics may include technical, operational, non-technical, and managerial topics. Additional training needs may be specified in QAPPs.

3.2.2 Environmental Program Training

Managers and Supervisors train new employees regarding each employee's role related to the agency's environmental data projects. The Supervisors also review relevant policies and SOPs with employees. This ensures that all employees are aware of the relevance and importance of their activities and how they contribute to the data quality goals and objectives.

Management determines whether training programs and courses offered outside of LDEQ by educational institutions, professional associations, and other providers are available and useful. These programs and courses may include such activities as instructional courses, seminars, professional meetings, and workshops or on-site training by external organizations approved by management.

Mentors are experienced employees who are assigned to staff members to assist in their training. Mentors provide input to the Supervisor or Manager as to the competency level of the employee as the training progresses. Supervisors and Managers ensure appropriate training is received.

3.2.3 Quality System Training

Quality system training requirements for LDEQ personnel are outlined in Table 1. The QA Manager will coordinate with the Deputy Undersecretary to establish course schedules. Personnel will take either the EPA led training or training offered on line with on site facilitation for required courses. QA Manager will determine suitable equivalent training courses.

3.3 Training Records

The agency maintains employee training records for all training provided through the Deputy Undersecretary. A database is used to track this training. Supervisors maintain training records of the staff they supervise.

Table 1. Quality System Training Requirements (R=Required, S=Suggested)

QA Courses	Exec Staff	QA Mgr	Admin.*	Mgrs*	Supvs*	DCLs *	Prj. Mgrs*	All Tech. Empls*
Overview of EPA Quality System	**R**							
Introduction to EPA Quality System Requirements		**R**	**R**	**R**	**R**	**R**	**R**	**R**
Introduction to Quality Management Plans (with Briefing Materials)		**R**	**R**	**R**	**R**	**R**	**R**	**R**
Introduction to Quality Assurance Project Plans		**R**		S	**R**	**R**	**R**	S
Introduction to Data Quality Assessments		S		S	S	S	S	S
Introduction to Data Quality Indicators		S			S	S	S	S
Interpreting Monitoring Data		S			S	S	S	S

* Administrators, Managers, Supervisors, DCLs, Project Managers and key technical staff in Tier 1 and Tier 2 programs must take the required courses for their levels.

For the other programs the courses are optional and Administrators will determine what staff may take the required courses.

Note: *Tier 1 programs are all OEA Divisions [AQA, WQA, UST, Remed, ET, Lab] and Surveillance and ERSD in OEC.*

Note: *Tier 2 programs are the Permits Divisions [Air, Water, Waste] in OES, OEC Enforcement Division, Information Technology, Contracts and Grants, and Procurement in OMF.*
"Other" Programs [optional training] are Financial Services, Administrative Services, Human Resources, Legal Affairs, Communications, Env. Assistance/OES

4.0 PROCUREMENT OF ITEMS AND SERVICES

Two groups within OMF manage the procurement of items and services. The Procurement Section handles purchase of items and facility-related support services, high-end technology and complex services. Professional, personal and consulting services are documented and managed through the Contracts and Grants Section to ensure compliance with requirements, i.e., that contracted activities produce results of acceptable quality (quality planning which includes contractor requirements described in Section 7.0). Requirements and specifications will be included or referenced in procurement and contract documents. The acceptability of purchased items and services will be verified with technical staff and documented.

4.1 Authority and Procedures

Statutory requirements concerning procurement are managed by the Louisiana Office of State Purchasing and posted on their web site at http://www.state.la.us/osp/osp.htm. It contains or provides links to current versions of the following:

- Louisiana Revised Statues Titles 39, 38, and 43
- Purchasing Rules and Regulations and the LA Procurement Code
- Louisiana Revised Statutes Title 39:1593 C: Methods of Procurement
- Louisiana Revised Statutes Title 39:1481-1526 and Chapter 34 Part V: Procurement of Professional, Personal, Consulting and Social Services (Division of Administration Rules and Regulations)

Procurement procedures are in the *LDEQ Policy & Procedures Manual 2003-88 Purchasing*. These documents describe assignments of authority and procedures for planning and approving procurements, determining specifications and requirements to be included in procurement documents, selecting vendors, awarding procurements, and accepting purchased goods and services.

Statutory requirements concerning contracts are managed by the Louisiana Office of Contractual Review and posted on their web site at http:www.state.la.us/ocr/ocr.htm. It contains or provides links to current versions of the following, as well as, Executive Orders and other pertinent contract information.

- LSA-R.S. 39:1481-1526 [Chapter 16. Professional, Personal, Consulting and Social Services Procurement, Part 1. General Provisions]
- Title 34, Part V, Louisiana Administrative Code [Government Contracts, Procurement, and Property Control, Part V., Procurement of Professional, Personal, Consulting and Social Services]

Other statutory requirements regarding contract procedures are provided in the *LDEQ Policy & Procedures Manual 5001-89*, Contracts, and are listed below. PPM 5001-89 describes assignments of authority, types of contract agreements, methods of source selection, and minimum statutory requirements for contract content and procedures for administration of contracts.

- LSA-R.S. 30:2206 [Contracting for Hazardous Waste Cleanup]
- LSA-R.S. 36:236 [Undersecretary: Functions: Office of Management and Finance]
- 40 CFR, Part 35, Subpart O [Cooperative Agreements and Superfund State Contracts for Superfund Response Actions]: §35:655- - §35:6610 [Procurement Requirements Under a Cooperative Agreement]
- 40 CFR, Part 31 (§31:36) [Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, Procurement]

4.2 Procurement and Contract Documents

Procurement documents include purchase orders, internal requisitions, invitations for bid, request for proposals, procurement contracts, contract request forms, non-competitive selection forms, contract certification forms, contract justification forms, and scope of services. These documents specify tasks and products, goals and objectives, technical requirements, quality requirements, administrative requirements, deliverables, methods used to measure and determine contract performance, a monitoring plan and other requirements. All procurements are approved prior to issuance. Approval requirements vary depending on the nature and cost of the goods or services being procured. As a matter of policy, maximum competition among potential bidders and contractors is encouraged.

Contract documents include request for proposals, request for emergency contracts, request for bids, contract request forms, non-competitive selection forms, contract certification forms and statements of work. These documents specify tasks, goals and objectives, technical requirements, quality requirements, administrative requirements, deliverables, methods used to measure and determine contract performance, monitoring plans and other requirements.

4.3 Technical Requirements for Procurement and Contracts

Technical requirements are determined by the program technical staff and incorporated into procurement documents. For contracts, technical requirements are incorporated in the Statement of Work or Scope of Services. Information Technology products and services are also reviewed and approved by the Information Services Division Administrator.

4.4 Quality Requirements for Procurement and Contracts

Quality requirements are determined by the program technical staff with assistance of Purchasing or Contracts staff, and documented in procurement and contract documents. These documents include or reference appropriate design bases, certifications, and other requirements necessary to assure adequate quality, and to the extent necessary, require suppliers and subcontractors to have quality programs consistent with the LDEQ program. Any certifications and or license required by statute, state law, or LDEQ regulations will be a requirement set forth in contract documents, the bid or negotiation process, i.e. Request For Proposals (RFP), Invitation to Bid (ITB), Solicitations. Evidence of such requirements must be provided prior to award. In competitive bid documents (RFP, ITB, Solicitations) requirements for sub-contractors (certifications, licenses, accreditations, etc.) will be identified and verification of such made prior to award.

For non-competitive negotiations, it shall be the responsibility of the negotiating unit within LDEQ to determine and verify the requirements for contractors and sub-contractors prior to issuance of the contract. In any event, state and federal laws, statutes and regulations with stated requirements will be adhered to.

Procurement documents may include pre- and post- award source inspections, supplier audits, evaluations of objective evidence of quality furnished by the supplier, acceptance testing, and other requirements determined to be appropriate.

For Personal, Professional, and Consulting contracts and contracts for high-end technology or complex services the monitoring plan in the contract ensures that the services and deliverables of the contract are fulfilled and that acceptable levels of service are provided. It is the Project Manager's responsibility to monitor the contractor's performance, including on-site visits, to assure compliance with the technical requirements of the contract.

4.5 Changes to Procurement and Contract Documents

Changes to procurement documents generally receive the same reviews and approvals as original procurement documents. Changes may be authorized only through written amendment or change order. Also, approval requirements for changes are determined on the basis of allowable cost changes within the realm of state statutes.

During the term of a contracting project, LDEQ may identify a need to change the contract term, price or Scope of Services. These changes may be effected only through a written amendment to the contract authorized by the Contractor and LDEQ, and approved by the Office of Contractual Review.

4.6 Solicitation Responses and Supplier Selections

Responses to solicitations are reviewed by Procurement and Contract personnel and personnel from the requesting unit who have technical expertise. Review ensures that the item or service being procured meets required specifications.

For all contracts resulting from a request for proposal process, a selection committee performs the technical review. The selection committee is composed of LDEQ technical personnel from the office/division requesting the solicitation and a member of the Contracts or Procurement staff. The selection committee will evaluate and rank all proposals according to the criteria listed in the solicitation. At a minimum, criteria will include technical approach, relevant experience of the firm, and qualifications of key personnel assigned to the project and the price.

The Financial Services Division within LDEQ performs the cost reviews for these proposals (*LDEQ Policy Manual 5001-89 Contracts)*.

4.7 Acceptance of Items and Services

Items are received by receiving personnel in accordance with written LDEQ procedures (*Policy 2011-93 Central Receiving*) and in line with acceptable receiving practices as defined by state law. Items are inspected upon receipt for noticeable damages/defects and are evaluated against criteria contained in purchasing documents. Items not meeting written criteria or which show a noticeable defect are rejected for delivery and vendor/supplier immediately contacted. End users determine whether acceptance criteria have been met and whether items or services are adequate or appropriate for use.

Items and services which contain latent defects are also not accepted for use. Corrective actions are initiated in accordance with state statutes, contract provisions and LDEQ procurement procedures. Corrective actions may range from replacement of defective deliverables to re-award of purchases.

For contracts, LDEQ will monitor the contractor's work through telephone communications, meetings and review of Progress Reports. The Progress Report shall include a description of the progress made during the previous month for each activity, including problems experienced, requests of approved changes in personnel, and the effect of the problems/ changes on the due date of deliverables. LDEQ will also review, require revision as necessary, and accept deliverables and submittals.

For contracts, if required by LDEQ, prior to payment, the contractor shall promptly, without additional cost to LDEQ, correct any deficient work performed by him. Deficient work is defined as work that is (a) unsatisfactory, faulty, or defective, or (b) does not conform to the requirements of the contract documents. If the contractor does not

correct such deficient work within the time specified by LDEQ, LDEQ may have the deficiency corrected by a separate party. All costs to LDEQ for such correction shall be paid by the contractor. If corrections made to deficient work interfere with any other LDEQ work by other parties, the contractor shall also bear the expenses caused by that interference. Invoices are reviewed by the Contract Manager, approved by the Project Manager and submitted to Fiscal Services for payment. The Performance Evaluation form is used to submit quality related information on contractors.

Vendors are on a list of registered suppliers. There is a state procedure to debar vendors for poor quality service or supplies. The Contractor Performance Evaluation form is used to submit quality related information on contractors.

5.0 DOCUMENTS AND RECORDS

Control of documents and records is necessary to ensure consistent implementation of processes thereby producing quality decisions, items, and services. This includes electronic as well as printed versions of documents and records.

Documents requiring control include anything pertaining to LDEQ environmental data processes and any associated requirements documents. Examples of documents requiring control may include, but are not limited to:

- State and federal laws
- State and federal regulations
- QA Documents
    - Planning documents such as
        - LDEQ Quality Management Plan (QMP)
        - Quality Assurance Project Plans (QAPPs)
        - Sampling and Analysis Plans (SAPs)
    - Process documents such as
        - Standard Operating Procedures (SOPs)
        - Laboratory Services Division Quality Assurance Manual
        - Policy and Procedure Manuals (PPMs)
- Work instructions
- Equipment Operations manuals
- Environmental data collection and generation forms

Records requiring control include items that may provide objective evidence of how processes were implemented and the quality of any resulting data and decisions. Examples of records requiring control may include, but are not limited to:

- Reports
- Completed forms
- Equipment calibration records
- Logbooks (instrument, field, etc.)

- Drawings
- Photographs
- Data
- Calculations
- Assessment results

Managers and Supervisors are responsible for ensuring documents and records requiring control are identified, produced, revised as needed and maintained in accordance with state, agency or program-specific requirements, whichever is more stringent. LDEQ has agency-wide procedures in place for preparing, reviewing, approving and distributing the QMP, QAPPs and SOPs (see below). Additionally, the Permitting, Compliance and Enforcement programs use an Electronic Document Management System (EDMS) to control documents and records.

Control of QA documents is provided through use of a control header and Document Review and Revision Record page. Document control information appears in the header on the upper right corner or at the bottom of each page, including the title page.

EXAMPLE:

Short Title
File Name
Document Prepared Date (Month, Day and Year)
Page X of Y

The file name is used for posting QA documents to the LDEQ intranet. The file name must be in the following format of **qmp_xxxx_rxx, qapp_xxxx_rxx** or **sop_xxxx_rxx**, where "**qmp"** identifies the QMP, **"qapp"** identifies a quality assurance project plan and **"sop"** identifies a standard operating procedure; "**xxxx**" is the unique 4-digit file number that is assigned by designated staff (identified on the intranet SOP page) to each QAPP or SOP; and "**rxx**" is the revision number for the QAPP or SOP with "**r**" standing for revision and "**xx**" the 2-digit revision number. The original issue of a document is r00.

The Document Review and Revision Record is maintained within the document. This record provides historical information on the review with or without revision of the document. During the revision process, changes may be recorded and tracked. For minor revisions, the document owner briefly describes the change(s) and may reference the affected section(s). For major revisions, the document owner may state, "broad revisions throughout document".

The QA Manager and designated staff maintain the QMP, QAPPs and SOPs on the intranet with approval dates noted. These documents must be submitted by email to designated staff and include electronic versions of both the Word document and Adobe PDF (with scanned signature page). The submitter must identify in the email the applicable office(s), division(s) and section(s), or if it is agency-wide (those who must use the plan or SOP).

Obsolete versions of these documents will be retained for three years by the QA Manager from the end of the project period, unless a longer retention period is required. The employee submitting the document for posting will notify the QA Manager if a longer retention schedule applies.

Any other documents requiring control, such as SAPs, forms, and work instructions are the responsibility of Managers and Supervisors who will ensure that the documents are kept current and controlled. If it is determined that these documents need to be developed or revised, all affected parties must be involved in the process. Levels of review and approval are the same as for SOPs.

Records are items that furnish objective evidence of the quality of items or activities that have been produced or implemented. QA records may include chain-of-custody, photographs, drawings, forms, reports, and recorded data either paper, electronically, or other media. These records are identified in QAPPs and SOPs and handling procedures are specified.

Assignments of authority and procedures concerning the identification, verification, authentication, handling, retention, and disposition of documents and records needed to safeguard the legal and financial rights of the State of Louisiana and any person directly affected by activities of the LDEQ are contained in Title 44 of the Louisiana Statutes and identified in each of LDEQ's SOPs. Records produced by LDEQ and maintained as official records of the State of Louisiana are documented in the agency Records Retention Schedule.

6.0 COMPUTER HARDWARE AND SOFTWARE

The acquisition and installation of computer hardware and software will be controlled to ensure conformance with standards and compatibility with existing and planned network, hardware, and software. The OMF sets standards, and the Information Services Division approves acquisitions and performs installations. The Office of the Governor's Procurement Support Team, as authorized by RS 39:196-200, must approve all requisitions of $50,000 or greater for computer hardware and all requisitions of $100,000 or greater for computer software.

6.1 Hardware

Servers and Network components are purchased, installed, and maintained by the Technical Support Section of the Information Services Division. This equipment is routinely upgraded as cost efficient alternatives become available to meet the existing and projected infrastructure needs of the agency. Uninterrupted power supplies (UPS) are utilized on all servers, network hubs, routers, and switches. Annual maintenance contracts with manufacturer approved service centers are utilized where appropriate.

Client workstations are installed and maintained by the Technical Support Section. The OMF establishes minimum configurations for CPU, memory, and disk storage. All client workstations are routinely upgraded or replaced to conform to this standard.

High speed networked printers are made available to every workgroup, with limited use of desktop printers for special circumstances such as confidentiality.

6.2 Software

Standards are set by OMF for system software and tools on client workstations. The Undersecretary, on an individual basis, approves exceptions to these standards. The Technical Support Section installs and maintains all client workstation software.

The Application Support Section of the Information Services Division, with consultant assistance, has developed an Integrated Data Management System (IDMS) which is the repository for site related environmental data. Cleanup and reconciliation of the migrated data is in progress. All future application development will be tightly integrated and conform to the standards set by this system.

Quality assurance begins with the involvement of the end users prior to, and during development. The first step is the building of a requirements document that is a joint effort between users and IS staff and signed off by all. The actual development of the code is the responsibility of the programmers, both in-house and consultants. Preliminary testing is done by the programmers then the software is installed on a ‘test server’. A subset of the end users is then given access to the test server to thoroughly test the application before it is placed into production. After users execute their test scenario plan, they sign the original work request indicating their acceptance of the software product.

6.3 Geographic Information System

The GIS Section of the Information Services Division has developed quality standards for positional data. All positional data, whether obtained from external sources or agency personnel using global positioning systems, is accompanied by codes giving the method by which it was gathered and from which its accuracy may be inferred. It is the responsibility of the program organizations to insure that the data meets the standard.

6.4 Data and Information

The responsibility for data quality lies with the program organization, regardless of whether the information is produced from or collected by computers. During software development, the requirements for data quality are captured by the requirements-gathering process like any other requirements, and the inspection and testing procedures insure that the software delivered meets those requirements.

LDEQ backs up all data on tape following a regular protocol:

Weekly	Backup
Monday - Thursday	Incremental backups daily
Friday	Full systems backup
Monday	All data tapes from the previous week are shipped to an offsite, environmentally controlled storage facility

All weekly data tapes are retained in storage for 6 weeks and then recycled. Monthly data tapes (backups at first of the month) are kept in storage for 2 years and then recycled. Two complete systems backups are made once at the first of the calendar year and again at the first of the fiscal year (July 1). These two full backups are kept in storage. When backups will be rendered obsolete by new equipment, plans will be developed to migrate important data to the new platform.

The migration of the backup data is performed by LDEQ employees in the Technical Support Section of the Information Services Division. This is the same staff that maintains the hardware and performs the daily backups.

7.0 PLANNING

Environmental programs shall be planned in accordance with state and federal laws and rules, agency policies and procedures, and contractual requirements.

7.1 Requirements

Organizational and programmatic requirements concerning environmental programs are defined in statutes enacted by the Louisiana Legislature and United States Congress, strategic plans developed by LDEQ, rules promulgated by LDEQ and federal agencies, and requirements documents adopted by LDEQ and federal agencies. These documents determine goals, establish stakeholder and customer relationships, and define needs and expectations for environmental programs implemented by LDEQ.

7.2 Specifications

Environmental programs and projects are planned through the development of organizational business plans and budgets, Performance Partnership Agreements, grant work plans, the QMP, QAPPs, SAPs, policies, SOPs, PPRs, and contracts executed by LDEQ and external organizations. These documents translate requirements and expectations into measurable specifications, commitments, and performance criteria.

7.3 Quality System Planning

The QMP documents the results of the quality system planning process performed by Executive Management and the Quality Steering Team following the process below.

1. LDEQ will maintain a QMP utilizing the outline found in *EPA Requirements for Quality Management Plans, EPA QA/R-2,* (latest version). The QMP will clearly state any interpretations, limitations, or exceptions to those requirements. The QA Manager oversees the agency QMP review and revision process with the Quality Steering Team.

2. The QMP will be reviewed and revised with the involvement and assistance of the Executive Staff, Administrators, Managers, Supervisors, DCLs and other key personnel.

3. The agency's QMP shall be approved prior to implementation. The signatures of the Secretary, the Executive Management, and the QA Manager as well as the EPA Region 6 QA Manager shall document approval of the agency QMP. The QA Manager will ensure that the QMP review and approvals are achieved within the stated timelines.

4. The QA Manager will ensure that the approved QMP is available electronically to all LDEQ personnel and the public. Managers and Project Managers will distribute copies of the LDEQ QMP to contractors whose work requires knowledge of and adherence to requirements and specifications contained in the document.

5. The QA Manager or designee shall maintain an approved copy of the current QMP on the LDEQ intranet. The QMP shall be reviewed and approved annually or revised and approved within 120 days of significant changes or reorganizations, whichever occurs first.

6. If the QMP accurately reflects current agency policies and procedures, the annual approval may be done by a certification to EPA that the plan is current, to include a copy of new, signed approval pages for the QMP.

7. Changes shall be incorporated into the QMP during the annual revision process or within 120 days in cases of significant changes.

7.4 Project Planning

Each environmental data collection project conducted by or for the LDEQ shall follow the systematic planning process outlined below. Project Managers, with assistance from DCLs as needed, are responsible for project planning and QAPP preparation, review, approval, and distribution.

7.4.1 Systematic Planning Process

All project stakeholders, including contractors, will be represented during the planning of environmental data projects. For example, representatives from field operations, the laboratory, and the data managers and users must be involved in planning.

a. QAPPs will be developed (see Section 7.4.2) and revised by individuals that have expertise in the subject of the QAPP.
b. All personnel conducting reviews must have a working knowledge of the project objectives and training in QAPP review.
c. QAPPs involving contractors shall, at a minimum, also be approved in writing by the contractor's Project Manager, contractor's QA representative and contractor's laboratory representative.

The planning group will address each of the following and document in the resulting QAPP:

a. Determine the project goal(s) and objectives based on the questions to be answered and issues to be addressed.
b. Determine resources available to implement the project.
c. Determine responsibilities for each activity.
d. Determine project schedules and milestones.
e. Outline specific requirements that will determine quality and quantity of data needed for the project. For example, are there action levels that will require very low analytical sensitivity levels or other quality requirements?
f. Outline any other performance requirements for measuring quality of the data (precision, bias, etc.).
g. Determine and document assessment methods that will be used to determine if project is being implemented according to plan and pertinent SOPs and if data are meeting quality criteria. See Section 9 for assessment methods.
h. Describe sample collection and analysis methods, frequency of sample collections and the monitoring design (where samples will be collected and number of samples). If a generic QAPP is developed and does not cover these details, these details will be incorporated into a SAP (see below).
i. Specify constraints on data collection, for example, critical seasons.
j. Describe data management process.
k. Describe how data will be reviewed, and who will do the review, to determine its quality and usefulness for the project.

l. If data are not directly collected for the project, for example, if data are used from existing literature sources, the quality requirements and review for these indirect data must be documented in the QAPP.

7.4.2 Preparation, Review, Approval, and Distribution of QAPPs

QAPPs will be written for all environmental data projects. The format for QAPPs will follow that outlined in EPA's QA/R-5 guidance document "EPA Requirements for Quality Assurance Project Plans."

a. In addition to project specific QAPPs, generic QAPPs for programs may be developed. Generic QAPPs will be developed for programs routinely implementing the same types of projects (e.g. watershed intensive dissolved oxygen surveys and RCRA activities). When generic QAPPs are developed for a program area, the project or site-specific details will be planned through development of SAPs.
b. No environmental data collection or analysis work addressed in the QAPP shall be started until the QAPP has been appropriately reviewed, approved, and distributed to project personnel (except in situations requiring immediate action to protect human health and the environment, for example, response to catastrophic events). Should such an event occur, LDEQ will notify EPA and seek concurrence. Projects involving federal funds must be approved by EPA prior to implementation; projects not involving federal funds do not require EPA approval.
c. Review and approvals will be performed by staff selected by Administrators to oversee the project.
d. Each QAPP must use a document control format that provides its version number and effective date (see Section 5).
e. The level of detail in each QAPP will vary according to the nature of the work being performed and the intended use of the data.
f. Staff chosen to implement the QAPP will receive an approved copy from the Project Manager, including external parties when appropriate.
g. Managers, Supervisors and Project Managers are responsible for ensuring QAPPs are updated and submitted to the QA Manager to be maintained on the department intranet. Note: SAPs are not currently posted on the intranet.
h. The Project Manager is responsible for ensuring that all QAPPs receive an annual quality assurance review and approval, including EPA when federal funds are used.
    i. If the QAPP accurately reflects the current project goals and the organization's policy, the annual approval may be done by a certification letter that the plan is current, to include a copy of new, signed approval pages for the QAPP. The revision level and preparation date remains the same with only a change in the approval date noted on the Document Review and Revision Record page.

ii. If revisions are required, update the document, obtain approvals, update the Document Review and Revision Record page, and update the control header with the new revision number and date.
iii. If QAPP updates are needed prior to the annual review, then the revisions must be made within 120 days of the process change, if significant.
iv. Expedited changes to QAPPs may be approved to reflect changes in project organization, tasks, schedules, objectives, and methods, address, deficiencies, improve operational efficiency, and accommodate unique or unanticipated circumstances. Expedited changes are effective immediately upon approval. Expedited changes to QAPPs and the reasons for the changes shall be documented. Changes to QAPPs shall be distributed to all individuals and organizations contained in the QAPP distribution list.

7.5 Sampling Analysis Plans (SAP)

These plans provide specific details for environmental monitoring events including, but not limited to, site location, sampling protocol, equipment, personnel, resources and schedules. SAPs outline project or site-specific processes that are not covered in higher level QAPPs; however, if these details are included in a QAPP, a SAP is not required.

The SAP includes:

- QC performed in the field and at the laboratory
- One or more maps of the facility or area that clearly indicate:
  - The location of all existing and proposed soil borings, surface samples, groundwater monitoring wells, surface drainage sampling points, and air sample points;
  - Important on-site structures, including tanks, sumps, catch basins, and pipelines;
  - The location of past spills, disposal areas, and other waste and product management areas; and
  - All pertinent structures adjacent to or near the sampling site, such as drainage ditches, pipelines, roads, wells, and utility corridors.

The following details examples of information that should be included in the SAP for all samples collected (by pathway):

Soil

a. Sampling

- number and locations of surface and subsurface samples
- depth of any subsurface samples

- type and category of samples (grab or composite; environmental, duplicate, or background)
- if composite, method of compositing samples
- sample collection methods and tools
- equipment decontamination procedures
- sample preservation techniques
- types of sample containers to be used
- collection/disposal of excavated soil, if necessary

b. Analyses

- analyses to be performed on each sample
- EPA or other method reference number
- detection limits
- special analytical considerations

Groundwater

a. Sampling Existing Wells

- number of samples
- location of each sample, such as well number or location of well
- type of samples (i.e., environmental, duplicate, trip blank)
- screened interval of well being sampled
- type of well being sampled (domestic, municipal, etc.)
- well construction details, if known
- purge methods and tools
- sample collection methods and tools
- sample filtration methods, if any
- equipment decontamination procedures
- sample preservation techniques
- types of sample containers used
- collection/disposal of purge water, if necessary

b. Installing and Sampling New Wells

In addition to the items listed above for sampling existing wells, include the following information in the SAP when the sampling plan calls for the installation of new wells:

- proposed well locations
- well construction details
- well drilling and installation methods
- well development and completion methods

- decontamination of drilling equipment, casing, etc.
- collection/disposal of drill cuttings and fluids, if necessary

c. Analyses

- analyses to be performed on each sample
- EPA or other method reference number
- detection limits
- special analytical considerations

Surface Water

a. Sampling

- number and locations of samples
- media sampled (water, sediment, or both)
- depth of any sediment samples
- field measurements
- types of samples (environmental, duplicate, etc.)
- sample collection methods and tools
- equipment decontamination procedures
- sample preservation techniques
- types of sample containers

b. Analyses

- analyses to be performed on each sample
- EPA or other method reference number
- detection or quantification limits
- special analytical considerations

Air

a. Sampling

- number and locations of samples
- type of samples (i.e., environmental, collocated, filter blanks)
- sample collection methods and tools
- equipment decontamination procedures
- special sampling handling procedures
- predominant wind direction, diurnal wind shift
- period of time to be sampled, volume of air to be sampled
- filter type (PUF, cellulose fiber filter, etc.)
- sample container
- sample preservation techniques

b. Analyses

- analyses to be performed on each sample
- EPA or other method reference number
- detection limits
- special analytical considerations

8.0 IMPLEMENTATION OF WORK PROCESSES

Environmental programs shall be performed to ensure that customer needs and requirements are met in a timely manner. The Administrators, Managers and Supervisors ensure environmental work is implemented according to plans (QMP, QAPPs, SAPs, etc. – See Section 7) and SOPs. The primary tool for implementation of work processes is the use of SOPs. SOPs are needed when consistency in implementation of processes is necessary to ensure uniformity in data, products and/or services and will be used during training of new employees.

8.1 Work Process Implementation Policy

All LDEQ personnel are required to adhere to the following implementation and practice policies:

- All sampling, analysis, and assessment activities that generate environmental data will be performed according to the approved plans and SOPs.
- These activities will have managerial oversight and inspection.
- SOPs will be developed, documented, and implemented for appropriate routine, standardized, distinctive or critical operations.

8.2 SOP Policy

- SOPs will be developed using the EPA SOP Guidance Document (*EPA Guidance for Preparing Standard Operating Procedures (SOPs), EPA QA/G-6*).
- SOPs will be written in a format that can be readily comprehended by the user and will contain sufficient detail and clarity to ensure that results are achieved effectively.
- SOPs will be reviewed for adequacy and approved by qualified personnel prior to use.
- SOPs must be followed by all employees involved in the described process. The best written SOPs will fail if not followed. The use of SOPs needs to be reviewed and re-enforced by management. Direct Supervisors are responsible for ensuring that SOPs are followed.
- SOPs need to remain current, therefore, whenever procedures are changed (e.g., changes in technology methodology or process, changes in compounds being monitored or regulated, or in the allowable concentration levels, etc.),

SOPs must be updated, reviewed, and approved. Changes or modifications may be made to only the pertinent section of an SOP, but the process must indicate the changed date and/or revision number for that section in the Table of Contents, in the document control notation, as well as within the text of the document.

- Current SOPs are maintained on the intranet using document control numbering systems by selected staff in each office. Managers are responsible to ensure this takes place in their respective sections.
- Employees are encouraged to suggest improvements to processes.
- To ensure SOPs remain current and appropriate, they must be reviewed a minimum of every two years unless a more frequent review cycle is specified in the individual SOP or process improvements are determined necessary to ensure best practices.
- If an SOP describes a process that is no longer followed, the Manager(s) are responsible for withdrawing the SOP and notifying the QA Manager to remove from the intranet.
- SOPs must be incorporated either in full or by reference into the pertinent QAPP
- Any SOPs referenced in a QAPP sent to EPA may be sent electronically in PDF format.

8.3 Preparation, Review, Approval, and Distribution of SOPs

When it has been determined that an SOP is needed for an activity, management initiates the development. The following process is used to develop a new SOP.

- Management selects document owner to lead the development of SOPs.
- Document owner obtains a filename for the SOP from the designated staff (listed on the intranet).
- Document owner and the development team drafts the SOP.
- Document is forwarded to reviewers for comments. Comments are considered in the preparation of the final draft. Once the draft is finalized it is forwarded to the final approval authority. SOPs are internal documents approved by LDEQ and do not require approval by EPA.
- If activities within a section or group will have an impact on other sections or groups within the agency, the SOP must be reviewed by a representative of those sections/groups and may become a division-level or office-level SOP.
- Document owner updates the Review and Revision Record to indicate approval date.
- Document owner scans approval page and emails Word document with scanned approval page to designated staff.
- Designated staff in each office receives signed approval page and electronic version (in Word) to post on intranet as an Adobe PDF file.
- Designated staff (listed on intranet) posts the SOP on the intranet and notifies document owner that it is available for use. Document owners will immediately

notify users that the document is available for use. For agency-wide SOPs, the QA Manager will email notification to all employees.

- The SOPs on the intranet are grouped by area (Department-wide, Office/Division/Section or Unit) to help staff identify applicable documents.
- Managers and Supervisors are responsible for ensuring SOPs are updated and maintained on the department intranet.
- If there are revisions, Managers and Supervisors will work with the document owner to update the SOP. Revisions will be detailed in the Document Review and Revision Record section of the SOP.
- The review date must be added to each SOP that has been reviewed.

It may be necessary to change processes prior to completion of the SOP revision process. Sending the proposed change by email to the affected staff will indicate approval of the changed process. If the SOP change has the potential to affect other areas, the email notice of the change will be sent to all affected staff. Managers, Supervisors and/or Project Managers will assure notification of groups, including contractors, affected by a new or revised SOP by email after it is posted on the Intranet.

9.0 ASSESSMENT AND RESPONSE

LDEQ will evaluate the performance of its environmental projects and the effectiveness of the LDEQ Quality System by planning, implementing, and documenting its assessment effort. Assessments are planned, scheduled and carried out and audit results are reviewed and corrective actions enacted to ensure that the environmental programs meet LDEQ's quality system criteria.

It is LDEQ's policy that all assessment teams shall have access to all work areas, documents, records, personnel, and Supervisors that are necessary to:

- conduct an assessment to verify that plans, policies and procedures are being followed
- identify and document quality problems and noteworthy practices
- communicate deficiencies to management
- determine if corrective actions have been implemented and are effective

LDEQ evaluates the adequacy of its quality system in relation to its environmental projects at least annually, which includes a review of the QMP and the effectiveness of its assessment/response processes. The QMP is then revised as needed consistent with the *EPA Requirements for Quality Management Plans (EPA QA/R-2).*

Assessment and monitoring routinely occurs to ensure quality products and services at LDEQ by Administrators, Managers and Supervisors performing periodic checks to assure processes are being followed. QSAs and TSAs are planned and coordinated by the QA Manager and Administrators and conducted by teams led by DCLs within and

outside of their divisions. Intra-office assessments will be conducted by DCLs within their respective offices to ensure that procedures are being followed, as outlined in SOPs and policies established by division administrators. Inter-office audits will be conducted by DCLs from outside the office to be audited to ensure independence in the audit process. Assessments conducted within offices may be documented in writing; inter-office audits will be documented in writing and their results will be included in the annual work plan and review that is managed by the QAM and the QST.

9.1 Assessment Types

LDEQ uses four types of assessments including:

- Quality System Assessments
- Technical Systems Audits
- Data Quality Assessments
- Performance Planning and Reviews

9.1.1 Quality Systems Assessments (QSA)

QSAs will be performed in all offices involved in data collection, generation, management, and use; the goal is to perform an QSA in at least one program (for example, water permits, air quality assessments) annually. The QSA will qualitatively assess a program's organization and data collection procedures to determine if the management procedures are in place and are adequate to ensure the quality of the program data. The QA Manager will work with the Administrators to assemble audit teams and coordinate audit activities. The QA Manager will mentor audit teams from outside the evaluated program to conduct audits using EPA QA/G-3 *Guidance on Assessing Quality Systems.* Results of QSAs will be forwarded to the administrators upon completion of the review (but prior to a final written report). The Administrator of the program reviewed is responsible for taking any necessary corrective actions and determining whether additional audit activities are required.

9.1.2 Technical Systems Audits (TSA)

All programs that employ environmental sample collection and analyses are subject to a TSA. The TSA involves a thorough review of the facilities, equipment, sampling, analysis and documentation procedures, data validation, management processes, training procedures, and the reporting aspects of the technical system for collecting or processing environmental data. TSAs will either be routinely planned by the administrators, or can be specifically requested by a division, section, the QA Manager or may result from audit or review findings. The audit team leader, assigned by an administrator, is responsible for scheduling the TSA, assembling the audit team, and coordinating the TSA. TSA results will be reported to the audited organization in the form of a written report. EPA guidance is available on how to conduct TSAs (EPA

QA/G-7 *Guidance on Technical Audits and Related Assessments for Environmental Data Operations).*

9.1.3 Data Quality Assessments (DQA)

Data will be evaluated for quality and integrity. Data review, data verification, and data validation procedures are documented in the appropriate QAPP and typically performed within the program area. The procedures will document the decision process and factors used in arriving at the choice of the particular qualification method. Limitations on data use will be identified quantitatively to the extent practicable and fully documented. Data that was not collected under, or did not fully comply with, a QAPP or equivalent planning document for data collection and analysis must be qualified (for example, validated for use).

Data validation is used to determine if the verified data met the acceptable level of certainty required for a decision. Confidence levels may be stated in the QAPP as performance measures for the project. This process may include application of statistical methods during the data quality assessment process.

Environmental data generated outside of a quality assurance program or an approved QAPP and used in an environmental program will be qualified according to its intended use. The data and the methods used to qualify such data will be identified in the any reports produced with the data. The suitability of the monitoring and measuring devices will also be identified and may include the accuracy and precision of the device.

Guidance documents are available to assist in determining appropriate data assessments and determining the usability of data including EPA quality system documents QA/G-3, QA/G-7, QA/G-8, QA/G-9 (http://www.epa.gov/quality/qa_docs.html), EPA Contract Laboratory Program (CLP) guidelines and EPA Risk Assessment Guidelines.

9.1.4 Performance Planning and Reviews (PPR)

It is the responsibility of all Executive Staff, Administrators, Managers and Supervisors to ensure that PPRs have the appropriate level of quality work product expectations planned and reviewed. This should be commensurate with their level of quality system responsibilities. Supervisors and Managers shall ensure that their staff is properly trained in sampling locations, sampling and calibration techniques, and equipment usage. Any employee deficiencies shall be identified during the planning process and addressed prior to any sampling or analytical events.

9.2 Assessment Planning

Assessment plans and schedules will take into account such factors as public health and safety, budgets, results of prior assessments, grant/program coverage and

continuity, complexity of work activities, management criteria, and existing commitments (for example, QAPPs). Scheduled assessments may be supplemented by unscheduled or unannounced assessments requested by Managers or the division Administrator. EPA-sponsored programs are subject to review at any time. Formal assessment of performance under EPA assistance agreements occurs as part of a comprehensive review and evaluation of LDEQ programs.

The Quality Steering Team will meet annually, in the June timeframe, to discuss the status of the quality system implementation efforts and propose assessments for the coming fiscal year. The assessment schedule, which outlines scope and audit dates, shall be approved by the appropriate division Administrators. This approval will be done prior to implementation and distribution to Managers and Supervisors. The QA Work Plan describes major QA activities planned for the coming fiscal year, including specific planned audits and audit responsibilities.

Depending on the type audit and the program to be audited, auditors will be required to have appropriate training. EPA computer QA courses are available to those performing audits and assessments (http://www.epa.gov/quality/trcourse.html). The QA Manager will coordinate formal assessment and audit training.

9.3 Assessment Implementation

Implementation of work processes shall include the routine measurement of performance against established technical and quality specifications. The work process shall be monitored to ensure continued satisfactory performance. The independence of personnel monitoring the work performance shall be commensurate with the nature and importance of the activity as determined by management.

The assessments will be planned and coordinated by the QA Manager and the Quality Steering Team and authorized by Executive Management. Assessments will be led by an assessment team leader and conducted by teams consisting of one or more individuals. The division Administrators, with assistance from the QA Manager and the assessment team leader, will ensure that personnel conducting assessments are technically knowledgeable, have no real or perceived conflict of interest, and have no direct involvement or responsibility for the work being assessed. The role of each team member shall be specified.

An assessment team leader shall forward a written assessment report to management and the QA Manager within 30 calendar days of completing the on-site phase of an assessment. If an assessment report contains adverse findings, Managers and Supervisors of the affected projects shall forward written responses that describe appropriate corrective actions to the assessment team leader, appropriate DCL B(s), Administrator(s), and the QA Manager within 30 calendar days of receiving the assessment report.

9.4 Suspension of Assessments

An assessment may be suspended if, in the judgment of the assessment team leader, the objectives of an assessment cannot be achieved or a continuation of an assessment could jeopardize the health or safety of any member of the assessment team. The assessment team leader shall notify the QA Manager and Administrator(s) as soon as practicable after suspending an assessment and shall describe the reasons for the suspension. The assessment will be rescheduled when the reasons for suspension have been addressed.

10.0 QUALITY IMPROVEMENT

Management will strive to maintain and continually improve the overall quality system established for its environmental programs. To ensure that there is continual improvement in the quality system, an annual review will be conducted.

10.1 Annual Quality System Work Plan and Report

The QA Manager and the Quality Steering Team will meet routinely to discuss the status of QA efforts and to develop an annual assessment work plan for the upcoming fiscal year. The work plan will be submitted to Executive Management. The work plan and report reflects the implementation status of the quality system. The quality system work plan and report will contain the following information, at a minimum:

- Status of the quality system, including:
  - program and data quality objectives are being met and determine whether any changes or additions are needed
  - corrective action timeliness and appropriateness
  - resource adequacy
- Revisions to the QMP
- Significant QA related needs (i.e., new policies, changes to existing policies, guidance documents, audit protocols, etc.)
- Status of QA Programs/Projects and SOPs
- Resource changes
- Audits conducted and planned
- Training needs and plans

The Annual Quality System Work Plan and Report will be reviewed and approved by the Executive Staff as a part of or following the annual QMP update and revision process.

10.2 Process to Improve Quality System

Assessments and audits (Section 9) identify deficiencies. The corrective action process involves determining the cause of the deficiency, evaluating the need for action to

prevent occurrence/reoccurrence, implementing the action and recording the results of the action taken.

Managers will ensure the implementation of corrective action plans. If corrective action plans are not completed in a timely manner, the DCL B tracking the corrective action will notify the appropriate Administrator(s) to ensure the corrective actions are addressed.

Senior technical staff (DCL Bs) will track implementation of corrective actions. They will monitor the timeliness of corrective actions to ensure that the responses to corrective action are completed within specified time frames. They will provide notification to the Administrator when responses are overdue.

10.3 Dispute Resolution Process

The Environmental Scientist Seniors work with Managers to resolve disputes. If they are unable to resolve the dispute, the matter is submitted to the Administrators and/or Executive Staff. Some QA issues may include projects involving Managers or technical staff from EPA and LDEQ. In such a dispute, the LDEQ QA Manager and/or Executive Staff will coordinate discussion with EPA and LDEQ staff to resolve the dispute. If the group is unable to resolve the dispute, the LDEQ QA Manager and the EPA QA Manager will be asked to resolve the matter.

10.4 Quality System Communication

The QA Manager will maintain a close liaison with the management staff in each Office and will meet at least annually with management and technical staff in the respective LDEQ Offices to review quality system implementation efforts. Observations and/or findings in one area can be sources of preventive actions that are taken to prevent the occurrence of deficiencies. Management reviews are other sources of preventive actions.